NOTES FROM GB3 UNIVERSITY TRANSPORTATION MEETING
November 10, 2004, 8:30 - 11:30am
Harvard University, One Western Ave, Allston, Common Room
GB3: Greater Boston Breathes Better

1. Opening Remarks and Introductions.

Patrick Field (The Consensus Building Institute), facilitator, and participants.

2. Christine Sansevero (EPA): Introduction and Background of Greater Boston Breathes Better (GB3) Initiative and EPA's voluntary transportation programs

Christine provided background information on and explained current concerns about diesel pollution, including the known health risks associated with exposure to fine particles. She explained that the purpose of the workshop was to help focus on strategies for reducing pollution from transportation sources including diesel engines. EPA sets standards and regulates new on and non-road engines. New regulations will take effect beginning in 2007. EPA's is also taking action to reduce pollution from vehicles and engines currently on the road through voluntary programs. EPA's four voluntary programs related to transportation are:

1. Clean School Bus USA (provides grant fund and/or technical assistance to school districts pursuing retrofit projects)
2. Voluntary Diesel Retrofit Program (provides grant fund and/or technical assistance to fleets pursuing retrofit projects)
3. Best Workplaces for Commuters (employers provide incentives to employees to commute in ways that reduce air pollution and traffic congestion)
4. Smartway Transport Program (designed to help the freight and shipping industries reduce pollution and save money)

3. Steve Lanou (MIT) and Holly Bogle (Harvard): MIT and Harvard's Initiatives

Holly manages Harvard University's Best Workplaces for Commuters Program that promotes alternatives to driving to Harvard. About 20% of Harvard's commuting population drives alone. Almost 50% of Harvard's population lives within 3 miles, which is an acceptable distance for walking and biking. In addition, Harvard has good bus and subway service. Harvard provides discounted MBTA passes (which can now be sent to a user's home) and a pre-tax payroll deduction (currently there are about 4,300 subscribers). Moreover, 42 campus vehicles are being fueled with biodiesel.

Harvard has a considerable number of construction projects that could benefit from construction equipment that uses clean technologies (such as retrofits) or clean fuels (such as biodiesel).

Steve spoke about sustainability at MIT and why the university sector should take action in promoting the use of retrofitted vehicles and/or alternative fuels. The environmental footprint of college campuses is increasing, and their transportation choices often mimic those of city. Furthermore, pollution from commuters to MIT is significant. Steve noted that approximately 10% of MIT's greenhouse gas emissions come from transportation. Like Harvard, MIT has a number of programs in place to promote alternatives to driving, including subsidizing 5000+ passes for commuters and green building opportunities.

1. Lucy Edmondson (EPA): Best Workplaces for Commuters Initiative

Lucy spoke about the Best Workplaces Program. She noted that over half of Boston's air pollution comes from transportation sources. Through Best Workplaces for Commuters, EPA is working in partnership with US DOT and state environmental agencies to address this problem (and the associated traffic

congestion problem). Currently, ten universities and colleges in New England participate in the program. In order to qualify, employers must agree to provide some of the following incentives:

1. Provide $30/month min or parking cash out (receive $ equivalent for parking space);
2. Promote a telecommuting program;
3. Offer a guaranteed ride home;
4. Promote supporting benefits (bikes, showers, telecommuting, other on-site amenities).

In exchange, EPA puts out a list of participating institutions and gives media exposure to firms through a partnership with the American Marketing Association and other established networks. Schools can sign up online at www.bwc.gov.

Questions and Comments

Comment: Yale's homebuyer program is one way Yale participates (gives assistance to people buying homes in close proximity to campus), but many small things might be more effective than a few big things (e.g. bike racks, etc).

Question: Gordon is a suburban school with a commuter rail 2.5 miles from campus. Would this program apply to students?
Lucy: Technically, the program applies to employees, but if there is a large commuter population, there might be a way to incorporate students into the program. EPA will look into this.

Question: How do you get feedback? How do you realize full benefits?
Holly: Harvard does a survey every two years and tracks/catalogues changes to "drive alone" behavior.

5. Sarah Creighton (Tufts Climate Initiative): The Role of Transportation in Campus Climate Change Action

Tufts is trying to meet many climate change goals aimed primarily at lowering CO2 emissions. The school actively monitors and evaluates electricity use and has several transportation initiatives, including vehicle and fuel choices (pilot scale). Among these initiatives are:

- Downsized vehicles: Tufts has historically used smaller trucks and vans for increased economy;
- Electric-hybrid vehicles: Tufts has purchased a Toyota Prius. Interesting, staff used the Prius because it had a better radio than other vehicles. An unintended benefit and unexpected incentive for staff to use the vehicle.
- Purchase and use of Ox electric mower: multiple benefits – reduces greenhouse gas emissions, noise.
- Electric vehicles/shared vehicles: University underwrites Zipcar, a "rent-a-car by the hour" business with deposits for university members over 21. Tufts has 3 spaces for Zipcars: 2 electric vehicles and 1 Prius on Tufts campuses. Zipcar require a dedicated parking space for each car. One challenge has been to free up a parking space or spaces for this program. Over 200 students and faculty use the service.
- Demand management: Tufts encourages carpooling through a web-based system to match riders; www.tufts.edu/tci; Also, they have improved the schedule and reliability of the campus shuttle.
- Awareness and personal action: Tufts has eco reps among the undergraduates that provide input on campus programs to reduce energy use and air pollution.

Lessons learned from Tufts: transportation is visible – solutions must be pragmatic, and when they are, they can add value to existing programs.

Questions and Comments

Question: How late do Tufts shuttles run?
Answer: 9 pm approximately. Do not receive neighborhood complaints about noise at night.

Question: Have you measured outputs from electric vehicles?
Answer: Electric vehicle are much better than hybrid. However, wouldn't personally buy an EV vehicle – vehicle range is limited particularly in very cold weather.

Comment*:* Green campus initiative at Harvard found that biodiesel is best given an analysis of different choices.

6. David Harris (General Manager, Harvard Transportation Services): Biodiesel Fuel.

Harvard is seeking to be as proactive as possible. Harvard decided to use a biodiesel blend for all campus diesel vehicles, of which there are many. David noted the following points.

- Barriers to implementation: Entry cost is high because there was no fuel delivery on campus and initially had to purchase fuel off-campus. Since then, the University has a dedicated tank for biodiesel on campus.
- The biodiesel solution enabled them to deliver biodiesel on-site; they can purchase biodiesel wholesale, which has resulted in a good return on investment.
- Harvard only uses fuels that meet ASTM standards.
- Lessons learned – biodiesel can be used in multiple types of equipment with little to no problems. On campus, shuttle is most predominant user, but is used in on-road vehicles, tractors, mail trucks, and dump trucks.

Harvard has seen nothing but positive results: Smells better, works well in cold, and no problems with suppliers, etc.

Questions and Comments

Question: When regulations change, do you have to go to ULSD or can you use biodiesel?
Answer: ULSD will be the baseline fuel and can be blended with biodiesel to produce ultra low sulfur biodiesel.

Question: What engines do you have in your buses?
Answer: Cummins.

Question: Any negatives?
Answer: Keeping an eye on cost. If switching older engines, initially you have to change fuel filters once every six months. If you do appropriate maintenance, the new filters last a long time and there are no negatives.

6. Bill Walch (Boston Coach): No Idling Policies & Boston College Transportation

Boston Coach will soon switch to ULSD with particulate traps. Boston Coach identified that idling is very damaging to diesel engines. Their policy now is zero tolerance for idling. They do not let their buses idle *at all*. Drivers often fear that if their bus shuts down it will not start again. Education and accountability have been key to the success of Boston Coach's anti-idling initiative and policy. Drivers

have seen the reliability of the engines increase dramatically as they stop idling. Boston Coach has reduced the size of their fleet from 58 buses to 40 due to an increase in engine reliability.

Boston Coach used to run a fleet of buses that were noisy. They received numerous complaints from residents in Newton. After implementing their no idling policy, complaints have dropped significantly. Shutting engines off was a culture/behavior change for drivers, but due to strong driver education efforts it has taken hold. Some of the hardest people to convince, initially, were the mechanics, but once they made the change, they have become very supportive.

Questions and Comments

Question: How hard was it to implement the policy?
Answer: Education for drivers was not too difficult. Copy of policies can be provided.

Question: Is Boston Coach retrofitting its entire fleet?
Answer: Yes.

7. Steve Lanou (MIT Sustainability): MIT's experiences with compressed natural gas (CNG)

MIT **r**uns **t**wo CNG vehicles, a 2000 GMC box truck and a 2002 Chevy Express cargo van. MIT chose CNG because at the time it was the best available technology (no hybrids were readily available, biodiesel was not a viable option and MIT required duel fuel to reduce risks in emergencies). CNG has worked well without compromise on performance, no additional maintenance or maintenance costs. However, MIT recognizes there are some limitations and drawbacks, which include having to use an off-site fueling station in Everett. As a result, organizations should carefully consider whether or not CNG is the best use for them, now that a wider variety of cost-effective technologies are available.

Questions and Comments

Question: Was there opposition to on site fueling?
Answer: Yes, safety was an issue, and the Town of Cambridge was involved. It was too difficult to find a spot on campus. Real estate in Cambridge is very expensive and the process for building a station is complex. Permitting is challenging as well.

8. Alex Kasprax (Central Artery/Tunnel): Diesel Retrofit for Construction Equipment

The goals for the Central Artery/Tunnel (CA/T) project were to reduce diesel impacts on abutters and workers, and to help CA/T meet environmental commitments. The program improved public relations, and was relatively easy to implement. CA/T used Diesel Oxidation Catalysts (DOC) on many of their non-road vehicles and equipment. In addition, they labeled the vehicles with stickers explaining that the vehicles have been retrofitted. DOCs were installed on approximately 200 pieces of machinery and equipment since 2000. Some vehicles/equipment used low sulfur diesel, while some used high sulfur fuel. The benefits of the retrofits are significant:

- Very cost effective (1-2% of equipment cost)
- Achieve 20-50% emission reduction + diesel odor reduction

The technology stays on equipment when contractor is finished, so there are longer-term benefits as well. The language from the contract specifications can be made available. It is important to make sure engine warranties are not affected by the installation of retrofit equipment.

Questions and Comments

Question: What is life expectancy of a DOC?
Answer: They will run forever, but periodically need to be cleaned, depending on the type of fuel used in the engine.

Question: What was response from contractors following bid specs?
Answer: Happy to do it because they saw benefit for future work.

EPA Comment: 2010 construction equipment will be required to use ULSD.

9. Annie Kee (EPA): SmartWay Partnership, Shipping and Freighting

The SmartWay Program is a voluntary program between EPA and freight and shipping industry partners. It is relatively new and aims to reduce emissions, improve fuel economy, and increase energy security. There are three components: (1) corporate partnerships; (2) national transportation idle-free corridors; and (3) increasing efficiency of rail and inter-modal operations. Any shipper of goods can join including colleges and universities. Information about SmartWay can be found at www.epa.gov/smartway.

Questions and Comments

Question: Is there a complete list of shippers on website?
Answer: Yes (www.epa.gov/smartway).

Question: Are there shipper/carriers that are smaller than national partners?
Answer: Right now the carriers are national, but it would be good to see universities on board, because they receive goods from partners.

10. Conclusion

The event ended at 11:00 AM. A list of attendees and their contact information is included below.

APPENDIX A: ATTENDEES AND CONTACT INFORMATION

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